

WEST

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Apr 17, 2001

US-PAT-NO: 6218321

DOCUMENT-IDENTIFIER US 6218321 B1

TITLE: Biodegradable fibers manufactured from thermoplastic starch and textile products and other articles manufactured from such fibers

DATE-ISSUED: April 17, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lorcks; Jorgen	Rees			DEX
Pommeranz; Winfried	Enger			DEX
Schmidt; Harald	Emmerich			DEX

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
Biotec Biologische Naturverpackungen GmbH				DEX		03

APPL-NO: 8/ 860147 [PALM]

DATE FILED: August 25, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DE	44 46 054	December 22, 1994
DE	195 13 235	April 7, 1995

PCT-DATA:

APPL-NO	DATE-FILED	PUB-NO	PUB-DATE	371-DATE	102(E)-DATE
PCT/IB95/01142	December 20, 1995	WO96/19599	Jun 27, 1996	Aug 25, 1997	Aug 25, 1997

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US-CL-ISSUED: 442/165; 442/59, 442/295, 442/361, 442/395, 524/47, 523/128, 604/370, 604/372

US-CL-CURRENT: 442/165; 442/295, 442/361, 442/395, 442/59, 523/128, 524/47, 604/370, 604/372

FIELD-OF-SEARCH: 442/59, 442/361, 442/395, 442/165, 442/295, 524/47, 523/128, 604/370, 604/372

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>5234977</u>	August 1993	Bastioli et al.	524/47
<input type="checkbox"/>	<u>5275774</u>	January 1994	Bahr et al.	264/211
<input type="checkbox"/>	<u>5295985</u>	March 1994	Romesser et al.	604/358
<input type="checkbox"/>	<u>5516815</u>	May 1996	Buchler et al.	523/128

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0542155	May 1993	EPX	
0541050	May 1993	EPX	
0596437	May 1994	EPX	
03027109	February 1991	JPX	
04146217	May 1992	JPX	
90/05161	May 1990	WOX	
WO91/12186	August 1991	WOX	
91/16375	October 1991	WOX	
92/02559	February 1992	WOX	
92/20740	November 1992	WOX	
93/07213	April 1993	WOX	

ART-UNIT: 171

PRIMARY-EXAMINER: Morris; Terrel

ASSISTANT-EXAMINER: Guarriello; John J.

ATTY-AGENT-FIRM: Workman, Nydegger & Seeley

ABSTRACT:

Articles of manufacture which comprise biodegradable fibers and fabrics made therefrom. The fibers are made from starch-based biodegradable thermoplastic polymers, which preferably include a an additional biodegradable thermoplastic polymer blended with thermoplastic starch for improved chemical and physical properties. Threads or fibers for the manufacture of these articles are drawn in a process that improves their mechanical properties, particularly their strength. These threads or fibers can be used in the manufacture of articles that have open, semi-densely packed or densely packed structures.

31 Claims, 3 Drawing figures